

Name of trainee: -----

NID no. -----

## Post-test ( تجميعية لنماذج الأسئلة الموجودة )

Multiple choices questions to evaluate trainees' post training information.

30 Minutes

Sometimes the answers are alike; choose and mark (x) the most suitable answer. Marks: 4x25=100

1)	<b>What is Energy?</b>		
	a)	Is the ability to lose work.	
	b)	Is the ability to save work.	
	c)	Is the ability to preserve work.	
	d)	Is the ability to do work.	<input checked="" type="radio"/>
	e)	Is the possibility to extract power.	
	f)	none of the previous.	
2)	<b>What is the relation between power and energy?</b>		
	a)	Power is larger than energy.	
	b)	Power is changing quantity, while energy is not.	
	c)	Power is the energy rate.	<input checked="" type="radio"/>
	d)	Power is polluting process, while energy is clean.	
	e)	Power is a quantity, while energy is a rate.	
	f)	none of the previous.	
3)	<b>Why some energy sources are called Nonrenewable?</b>		
	a)	Because they are unlimited.	
	b)	Because they are clean.	
	c)	Because they have favorable properties.	
	d)	Because they can be used in transportation.	
	e)	Because they are economical attractive.	
	f)	none of the previous.	<input checked="" type="radio"/>
4)	<b>Why some energy sources are called Renewable?</b>		
	a)	Because they are limited.	
	b)	Because they are clean.	
	c)	Because they have good characteristics.	
	d)	Because they can be used in transportation.	
	e)	Because they are naturally replenished.	<input checked="" type="radio"/>
	f)	none of the previous.	
5)	<b>Which group of the following energy sources is pure Renewables?</b>		
	a)	Oil, Gas, Coal, Water, & air.	
	b)	Wood, LNG, & petroleum.	
	c)	Solar, Wind, Biofuel, & geothermal.	<input checked="" type="radio"/>
	d)	Solar, Wind, Biomass, & natural gas.	
	e)	Sun. Water, Oil, fire, & Air	
	f)	none of the previous.	

Name of trainee: -----

NID no. -----

6)	<b>What is the global nature of solar energy?</b>	
	a)	It is just a heat energy.
	b)	It is electromagnetic energy (Heat and light).
	c)	It is the energy of light.
	d)	It is a potential energy.
	e)	It is just an electrical energy.
	f)	none of the previous.

7)	<b>What is the global nature of wind energy?</b>	
	a)	It is just a hydraulic energy.
	b)	It is electromagnetic energy.
	c)	It is the energy of clouds.
	d)	It is a potential energy of water.
	e)	It is the kinetic energy of atmospheric air.
	f)	none of the previous.

8)	<b>What is the nature of biomass energy?</b>	
	a)	It is the energy of wood.
	b)	It is electromagnetic energy.
	c)	It is the energy of garbage.
	d)	It is the energy of water cycles.
	e)	It is the energy of organic compounds.
	f)	none of the previous.

9)	<b>What is the hydrogen, and what is its role in a renewable energy system?</b>	
	a)	It is gaseous matter existed in liquid state in nature.
	b)	It is the ammonia mixed with nitrogen.
	c)	It is gaseous matter that can be used as energy source and storage.
	d)	It is a water vapor with extra oxygen used as a power system fuel.
	e)	It is a compressed energy in cooled liquified state.
	f)	none of the previous.

10)	<b>The Impact of renewable energy utilization on the environment and economy is?</b>	
	a)	Negative environmentally, while it is positive economically.
	b)	Negligible in all aspects.
	c)	Quicker if projects implemented at low budget.
	d)	Highly Positive in the long run, environmentally and economically.
	e)	The same impact as that for the nonrenewable energies.
	f)	none of the previous.

Name of trainee: -----

NID no. -----

11)	<b>What is the origin of solar radiation?</b>		
	a)	It is the thermonuclear conversion of hydrogen to helium in the sun core.	<input checked="" type="radio"/>
	b)	It is the chemical organic reactions in the sun core.	<input type="radio"/>
	c)	It is the thermonuclear conversion of helium to hydrogen in the sun core.	<input type="radio"/>
	d)	It is the energy of helium in the sun core.	<input type="radio"/>
	e)	It is the conversion of hydrogen to aluminum in the sun core.	<input type="radio"/>
	f)	none of the previous.	<input type="radio"/>

12)	<b>What are the main components to harness solar thermal and electrical energy?</b>		
	a)	Turbines and engines.	<input type="radio"/>
	b)	Fly-wheels and solar collectors.	<input type="radio"/>
	c)	Solar collectors and Fuel cells.	<input type="radio"/>
	d)	Positive displacement machines.	<input type="radio"/>
	e)	Solar collectors and solar panels.	<input checked="" type="radio"/>
	f)	none of the previous.	<input type="radio"/>

13)	<b>What are the main components of solar thermal energy systems?</b>		
	a)	Solar collector, Photovoltaic panels, inverters, and batteries.	<input type="radio"/>
	b)	Solar heater, storage tank, circulation pump, & controllers.	<input checked="" type="radio"/>
	c)	Solar heater, Electrical heater, controller, & batteries.	<input type="radio"/>
	d)	Solar heater, batteries, circulation pump, & controllers.	<input type="radio"/>
	e)	Solar collector, circulation pump, inverters, and batteries.	<input type="radio"/>
	f)	none of the previous.	<input type="radio"/>

14)	<b>What are the main components of solar electrical energy systems?</b>		
	a)	Solar storage tank, charge controller, inverters, & batteries.	<input type="radio"/>
	b)	Charge controller, solar collector, batteries, & connecting wires.	<input type="radio"/>
	c)	Hydraulic turbines, charge controllers, & solar collectors.	<input type="radio"/>
	d)	Solar heater, batteries, circulation pump, & controllers.	<input type="radio"/>
	e)	Photovoltaic panels, charge controller, inverters, & batteries, & fixing frame.	<input checked="" type="radio"/>
	f)	none of the previous.	<input type="radio"/>

15)	<b>What are the main components of concentrated solar power systems?</b>		
	a)	Flat plate collectors, controller, circulation pump, & thermal storage tank.	<input type="radio"/>
	b)	Heliostat, receiver, cold and hot storage tanks, & heat fluid circulation pipes.	<input checked="" type="radio"/>
	c)	Steam turbines, boilers, condensers, feed in pumps, & cooling tower.	<input type="radio"/>
	d)	Cooling towers, condensers, feed heaters, & reflector mirrors field.	<input type="radio"/>
	e)	Dish reflector, Stirling engine, moving table, & compressor.	<input type="radio"/>
	f)	none of the previous.	<input type="radio"/>

Name of trainee: .....

NID no. ....

16)	<b>What are the main methods used for renewable energy storage?</b>	
	a)	Sensible heat, latent heat, electrical, chemical, & hydrogen. •
	b)	organic materials, metals, oils, water, & wood.
	c)	Plastics, asphalt, coal, petroleum, natural gas.
	d)	Chemical, petrochemical, waxes, solid, liquid, & gas.
	e)	solar storage, batteries, water tanks, concrete, & fiber glass.
	f)	none of the previous.

17)	<b>What are the main Advantages of Solar Energy?</b>	
	a)	Renewable, clean, low maintenance cost, remotely applicable, & independent. •
	b)	Intensive, transportable, polluted, smooth, no storage needed, & lower cost.
	c)	Lower initial cost, limited land use, no cleaning needed, & has low power.
	d)	Steady energy supply, extensive, dispatchable, & weather dependent.
	e)	electromagnetic energy, cooling system needed, & land use is very high.
	f)	none of the previous.

18)	<b>What are the main disadvantages of Solar Energy?</b>	
	a)	Not clean, easy to handle, dispatchable, storage not required, & cheap.
	b)	High initial cost, land use, storage required, & panels need regular cleaning. •
	c)	Concrete storage needed; liquid heat transfer, & not practically applied.
	d)	Sustainable, variable, attainable, time consuming, & have a swift response.
	e)	Causes greenhouse effect, causes acid rains, & contributes to job creation.
	f)	none of the previous.

19)	<b>What is the mechanism of converting Wind Energy to electrical energy?</b>	
	a)	Wind energy is directly dependent on solar energy collection.
	b)	Wind turbines depend on the area of the rotor only.
	c)	The mechanism is consisted of electrical generator and solar panels.
	d)	The power from wind is depending on air velocity that rotates wind turbines. •
	e)	The conversion of wind energy is similar to biofuel biomass conversion.
	f)	none of the previous.

20)	<b>What are the main types of Wind turbines?</b>	
	a)	Thermal axes, flat plate, evacuated tube, & off shore wind turbines.
	b)	Steam wind turbines, horizontal axes, air powered, & Onshore turbines.
	c)	Onshore, Vertical blades, horizontal tower, & cooling tower.
	d)	Central receiver tower, variable axes, Onshore, & Offshore.
	e)	Offshore, Onshore, vertical axes, horizontal axes wind turbines. •
	f)	none of the previous.

Name of trainee: -----

NID no. -----

21)	<b>What are the common types of biofuel sources?</b>	
	a)	Ammonia, municipal water cycle waste, solid iron, benzene, & natural gas.
	b)	Coal, asphalt, fishes, animal wool, fiber glass, & polystyrene.
	c)	Animal wastes, wood, crops, solid trash, organic wastes, oil seeds, & algae.
	d)	Sugar canes, wood stuff, organic compounds, & hydrocarbons.
	e)	Asphalt, concrete, limestones, ceramic, Glass wool, & cement.
	f)	none of the previous.

22)	<b>Name 5 biomass or biofuel energy conversion technologies?</b>	
	a)	Combustion, liquification, cooling, heating, & reorganization.
	b)	Lubrication, transformation, solidification, pressurization, & gasification.
	c)	Combustion, Gasification, Pyrolysis, Anaerobic digestion, & Transesterification.
	d)	Filtration, separation, mixing, discharging, & charging.
	e)	Filling, hammering, covering, cofiring, & hydrothermal-liquification.
	f)	none of the previous.

23)	<b>Name 5 biomass or biofuel energy applications?</b>	
	a)	Heating, cooling, electricity production, transportation, & industrial processes.
	b)	Machine manufacturing, water pumping, transportation, & firefighting.
	c)	Waste elimination, power production, painting, agriculture, & engineering.
	d)	Electricity generation, rehabilitation, repairment, car fixing, & power saving.
	e)	Backup, emergency, small business, cooking, & traffic control.
	f)	none of the previous.

24)	<b>What are the characteristics of hydrogen?</b>	
	a)	Solid material, liquid metal, very heavy, good conductor.
	b)	Colorless, odorless, highly flammable gas, & chemical element with 1 electron?
	c)	Liquid at room temperature, viscus material, transparent, & radioactive.
	d)	Soluble in water, compressible, extracted from water, & safe in used as gas.
	e)	Good energy storage, good energy source, suitable for heating, & it is solid.
	f)	none of the previous.

25)	<b>Mention 5 known technologies for hydrogen production?</b>	
	a)	Bio-photolysis, Pyrolysis, liquification, separation, & transformation.
	b)	High-temperature electrolysis, penetration, winding, condensation, & boiling.
	c)	Algae Biomass Gasification, Cooling, Heating, Mixing, & Steam generation.
	d)	Freezing, pasteurization, iteration, electrification, & compression.
	e)	Steam Methane Reforming (SMR), Electrolysis, & Bio Gasification, & Pyrolysis.
	f)	none of the previous.

Name of trainee: .....

NID no. ....

26)	<b>The main components to harness solar photo-electrical energy are</b>		
	a)	Turbines and energies concentrated collectors	
	b)	Solar panels, charge controllers, inverters ,and batteries	•
	c)	positive displacement machine, Blowers and pumps	
	d)	fly wheels and solar collectors	
			?

27)	<b>The solar central receiver tower is a-----type of solar collector.</b>		
	a)	Non-concentrating	
	b)	Focus-type	
	c)	Non-focus type	
	d)	None of the above	

28)	<b>which of the following is a stand-alone PV application ?</b>		
	a)	Solar water pumping	
	b)	Battery charging	
	c)	Both a and b	•
	d)	None of the above	

29)	<b>The modified flat plate collector is a type of solar collector.</b>		
	a)	Non-concentrating	•
	b)	Focus-type	
	c)	Non-focus type	
	d)	None of the above	

30)	<b>which one of the following is not stand-alone PV application ?</b>		
	a)	Solar water pumping	
	b)	Car Battery charging	
	c)	Both a and b	
	d)	Thermal energy storage	•

Name of trainee: .....

NID no. ....

31)	<b>what are the main disadvantages of Solar Energy ?</b>		
	a)	not intensive, low transportable, storage needed, & high initial cost	•
	b)	steady energy supply, extensive, dispatchable, & not depend on weather	
	c)	Renewable, clean, low maintenance cost, remotely applicable, & independent	
	d)	None of the above	

32)	<b>_____ are component of solar energy system.</b>		
	a)	Electrical generator	
	b)	Collectors & sensors	•
	c)	Shaft with mechanical gear.	
	d)	None of the above.	

33)	<b>The fossil fuels fall within the group of _____</b>		
	a)	Renewable resources.	
	b)	Clean energy resources.	
	c)	chemical energy resources.	•
	d)	None of the above.	

34)	<b>which group is a point concentrated solar power system ?</b>		
	a)	Flat plate collectors, controllers, circulation pump, and thermal storage tank.	
	b)	Dish reflector, Sterling engine, moving table and compressor.	
	c)	parabolic trough collectors, cold and hot storage tanks,& circulation pipes.	•
	d)	None of the above.	

35)	<b>The thermal storage tank is _____ of solar thermal energy system.</b>		
	a)	an optional part.	
	b)	an optimal part.	
	c)	an integrated part.	•
	d)	an original part.	

Name of trainee: .....

NID no. ....

36)	<b>which group is not the main components of solar thermal energy systems ?</b>	
	a)	Photovoltaic panels, inverters, and batteries.
	b)	Solar heater, batteries, circulation pump, & controllers.
	c)	Solar heater, storage tank, circulation pump and controllers.
	d)	Solar controllers, circulation pump, pressure relief valve.

37)	<b>The circular Fresnel lens cone is a type of solar collector.</b>	
	a)	None-concentrating.
	b)	Focus-type.
	c)	None focus -type.
	d)	Point Focus.

38)	<b>The liquid flat plate collector is a _____ type of solar collector.</b>	
	a)	Non-concentrating
	b)	Focus-type
	c)	Non-focus type
	d)	None of the above

39)	<b>The fossil fuels are an example for _____</b>	
	a)	Renewable resources
	b)	Non-renewable resources
	c)	Both a and b.
	d)	None of the above.

40)	<b>The impact of renewable energy use on the environment is</b>	
	a)	Not Negligible in all aspects.
	b)	Quicker if projects implemented at low budget.
	c)	Not that positive in the long run.
	d)	Not quickly noticeable in the short run.



Name of trainee: -----

NID no. -----

41)	<b>Why some energy sources are called Nonrenewable ?</b>	
	a)	Because they are unlimited.
	b)	Because they can be used in transportation.
	c)	Because they are not replenished. •
	d)	None of the previous.

42)	<b>what is the mechanism of converting wind energy to thermal energy ?</b>	
	a)	The power from wind is depending on air velocity and heat.
	b)	Wind energy is directly dependent on solar energy collection.
	c)	Kinetic energy converted to electricity, and then to heat via electric heaters. •
	d)	None of the above.

43)	<b>_____ are the components of wind power system</b>	
	a)	Electrical generator.
	b)	Sensors & control.
	c)	Shaft with mechanical gear.
	d)	All of the above. •

44)	<b>What are the advantages of renewable energy ?</b>	
	a)	High installation cost.
	b)	Weather dependency.
	c)	Noise caused by wind energy.
	d)	None of the above. •

42)	<b>The Linear Fresnel solar collector is a _____ type of solar collector</b>	
	a)	Non-concentrating.
	b)	flat type.
	c)	concentrated type. •
	d)	None of the above.

44)	<b>The origin of solar radiation _____</b>	
	a)	is the energy of oxygen and helium in the sun core.
	b)	is the thermochemical conversion of helium to hydrogen in the sun core.
	c)	is the thermonuclear conversion of hydrogen to helium in the sun surface.
	d)	None of the above. •

45)	<b>What are the main Advantages of Solar Energy?</b>	
	a)	Not clean, easy to handle, dispatchable, storage not required, & cheap
	b)	High initial cost, land use, storage required, & panels need regular cleaning.
	c)	Concrete storage needed; liquid heat transfer, & not practically applied.
	d)	a) none of the previous. •

Name of trainee: -----

NID no. -----

46)	27) what are the major components of wind energy systems ?		
	a)	Roter blades, Roter hub, Brakes, Gear box, and Tower.	•
	b)	Solar heater, batteries, circulation pump, & controllers.	
	c)	Photovoltaic panels, charge controller, inverters, & batteries, & fixing frame.	
	d)	none of the previous.	